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EXAMINER

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1771

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Paper No. 24

Application Number: 09/317,409

Filing Date: May 24, 1999

Appellant(s): LUCAS ET AL.

Liza Negron
For Appellant

MAILED

JAN 28 2002

EXAMINER'S ANSWER

GROUP 1700

This is in response to the appeal brief filed November 19, 2002.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 55 and 57 – 59 do stand or fall together.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,895,699

CORBETT et al.

4-1999

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

I. Claims 55 and 57 – 59 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The Applicant fails to teach in the disclosure that the

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invention is produced “in the absence of tiedown ply contacting the honeycomb core,” as recited in claim 55. The specification does not require or disclose that the invention is made to the exclusion of *tiedown plies* as recited. Further, it has been held that negative limitations recited in the claims, which did not appear in the specification as filed introduce new concepts and violate the description requirement of 35 USC 112. *Ex parte Grasselli*, 231 USPQ 393. The mere absence of a positive recitation is not a basis for exclusion. In other words, the fact that the disclosure does not teach the invention comprising the *tiedown plies* is insufficient for a negative limitation to such. The concept of making the invention to the exclusion of using *tiedown plies* is not taught by the specification as filed. Thus, the negative limitation in claim 55, reciting “the absence of a tiedown ply” is not supported by the disclosure.

II. Claims 55 and 57 – 59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term “tiedown ply” in claim 55 is indefinite. It is unclear what the Applicant means by *tiedown ply*. Is a *tiedown ply* any example of mechanical or physical means which prevent differential movement between the prepreg layers as discussed in the disclosure (page 1, lines 35 – 38 and page 3, lines 25 – 29)? However, based on this definition of *tiedown ply*, then the disclosed invention which requires stiffness-treated prepreg plies to prevent slippage and core crush, actually requires a *tiedown ply*. Thus, the exclusion of a *tiedown ply* would in fact exclude the Applicant’s invention. Or, is a *tiedown ply* a specific type of layer which prevents the prepreg layers from slipping during autoclave processing, as suggested by the Corbett reference? Claims 57 – 59 are also rejected due to their dependency on claim 55.

(11) Response to Argument

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I. The Applicant argues that the negative limitation “in the absence of tiedown plies contacting the honeycomb core” is supported by the specification (Appeal Brief, pages 3 – 5). The Applicant relies on *Ex Parte Parks*, 30 USPQ2d 1234 (Bd Pat. App & Inter. 1993), which found that the negative limitation “in the absence of a catalyst” would have been conveyed to one of ordinary skill in the art due to lack of discussion of using a catalyst in the specification, even though the concept was not expressly mentioned in the specification. So the question now becomes does the specification convey the concept of the “absence of tiedown plies contacting the honeycomb core.” The Applicant supports this supposition by quoting different statements from the background discussion of prior art methods, including *tiedown plies*, and arguing that using *tiedown plies* would **contradict** the Applicant’s goal of producing inexpensive core crush prevention methods. In fact, the Applicant argues that “there is no question in the present specification, the concept of tiedown plies as well as the disadvantages associated therewith have been discussed at length” (Appeal Brief, page 5)

First, upon review of the background information provided in the specification it is noted that the term *tiedown plies* is used twice (page 1, line 37 and page 3, line 29). The disclosure mentions *tiedown plies* as examples of mechanical/physical constraining means. The specification then goes on to state that

“ known ***mechanical/physical*** means ... ***may*** increase production costs due to increased labor costs” (emphasis added) (page 2, lines 11 – 13)

and “known ***chemical*** means of reducing core crush ... have ***sometimes*** failed to provide satisfactory reduction of core crush (emphasis added) (page 2, lines 15 – 17).

Later on the disclosure refers back to this discussion when restating that

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“as *discussed above*, these *mechanical and chemical* constraining means *may* increase production costs due to increased labor costs and/or *may* fail to at all times provide satisfactory reduction of core crush” (emphasis added) (page 3, lines 33 – 37).

The specification doesn't explicitly teach that the *tiedown plies* are expensive or do not produce satisfactory results. Instead, the specification discussion of *tiedown plies* only reveals that *tiedown plies* can **potentially** have increased labor costs. This is the depth to which *tiedowns* are discussed by the Applicant in the specification. And, no where has the Applicant provided clear statements which establish that *tiedown plies* are ineffective and unsatisfactory, so that one of ordinary skill in the art would want to **exclude** their use.

Further, it is noted that the main goal of the invention as disclosed by the Applicant is to produce a product with reduced core crush and reduced void content (Page 5, line 19 – 30), which is additionally discussed in the summary of the invention (page 5, line 34 – page 12, lines 11). While expense is important to the inventor and those who deal in the honeycomb art, expense is secondary to reducing core crush, since less core crush means less wasted material which in turns reduces cost. Thus, the Examiner feels that no where in the specification does the Applicant clearly establish that a) the prior art methods which demonstrate using *tiedown plies* are extremely costly and ineffective and b) that one of ordinary skill in the art would understand that the Applicant's invention would **only** be used **instead** of *tiedown plies* contacting the honeycomb core, and **not in addition** to those *tiedown plies*.

Second, it is felt that review of the specification, as a whole, by one of ordinary skill in the art would **not** convey the concept of excluding “*tiedown plies* contacting the honeycomb.” The discussion of *tiedown plies* in the background **does not convey** to one of ordinary skill that the use of *tiedown plies* contradicts the objective of the invention and should be excluded, as

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discussed above. Nor, does the lack of discussion in the specification of using *tiedown plies* in conjunction with the stiffness-treated prepreg plies teach the concept of exclusion, as argued by the Applicant. The Applicant's invention is based on the concept of adding stiffness-treated prepreg to honeycomb sandwich structures to decrease core crush problems. On pages 36 – 40, the specification discusses that the honeycomb sandwich structure may further comprise additional layers, such as additional prepreg layers on one or both sides of the honeycomb (page 36, lines 18 – 21, page 36, line 26 – page 37, line 5), or an adhesive film layer (page 37, lines 10 – 12). Also, the prepreg layers may extend beyond the honeycomb core and contact additional layers to form an edgeband (page 36, lines 23 – 35). Finally, the Applicant discloses that the

“honeycomb sandwich structures contemplated for use in accordance with the invention are made utilizing methods well known to those of skill in the art ... without limitation” (page 40, lines 17 – 19).

In other words, no where does the Applicant attempt to limit the structure of the honeycomb sandwich to exclude previously known materials. In fact, the Applicant does not go into specific detail about the honeycomb sandwich structure except for the stiffness treated prepreg layers. The Applicant intends for the remaining structure of the honeycomb to be broad and cover various permutations based on the various honeycomb sandwich structure that are known to those of ordinary skill in the art. Based on this disclosure, regardless of any potential downsides that *tiedown plies* have, the disclosure does not attempt to exclude any known methods for making honeycomb sandwich structures. Therefore, when taken as a whole, one of ordinary skill in the art **would not** interpret the disclosure as conveying the concept of excluding *tiedown plies contacting the honeycomb core*.

Further, it is noted that the claim recites “the absence of tie down plies contacting the honeycomb core” and not just the absence of *tiedown plies* in general. In other words, the Applicant’s claim language would imply that *tiedown plies* can be added to anywhere in the honeycomb sandwich except contacting the honeycomb core. Thus, even if the specification might suggest that the stiffened prepreg plies would decrease the core crush without adding *tiedown plies*, one of ordinary skill **would not** interpret that as excluding the use of *tiedown plies*, and one of ordinary **would especially not** interpret the specification as excluding **only** the *tiedown plies in contact with the honeycomb core*.

This situation in contrast to the situation in *Ex parte Parks* which deals with a chemical system where the addition or absence of a catalyst would manipulatively effect the invention, since the method claims and the disclosure in *Ex Parte Parks* in the absence of discussion of using a catalyst indicates that there is no intention by the inventor to speed-up or manipulate the rate of reaction. The addition of a catalyst in other words would create a patentably distinct invention. Thus, in that case the absence of the inclusion of a catalyst was supported by the lack of discussion in the specification, since the disclosure would have had to specifically teach using a catalyst to convey the concept to one of ordinary skill in the art. However, in this case, The Applicant fails to teach that the *tiedown plies* have serious problems which would in fact hamper the stiffness-treated prepreps from producing the desired result. Also, while the Applicant does not discuss the use of *tiedown plies* in combination with the stiffness-treated prepreg plies, the Applicant fails to limit the structure of the honeycomb sandwich. As discussed above, the Applicant instead discusses various known materials which can be included in the honeycomb sandwich and states that the honeycomb sandwich structure may be made according to well known methods which include using *tiedown plies*. Therefore, the concept of exclusion of

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“tiedown plies contacting the honeycomb core” is **not taught** by the specification. Instead, based on the specification as a whole, one of ordinary skill in the art would conclude that the stiffness-treated prepreg plies taught by the Applicant could be used with **any** known honeycomb sandwich structure to decrease the amount of core crush. Thus, the disclosure fails to teach the concept that the invention is made in the “absence of tiedown plies contacting the honeycomb core.” Thus, claims 55 and 57 – 59 are rejected.

II. The Applicant argues that the term *tiedown ply* should be defined based on its meaning to one of ordinary skill in the art and not based on the general definition in the specification as a physical or mechanical means of prevent differential movement during the autoclave process (Appeal Brief, pages 6 – 7). The Applicant goes on to define *tiedown ply* based on its use in Corbett, as a term of art meaning

“a narrow, peripheral strip that contacts the core ... along at least a portion of the chamfer ... for about 1 inch overlap with the core ... and extends outward into the edgeband,” or a layer which produces a “picture frame” around the honeycomb sandwich. This *tiedown ply* is represented by number 150 in Figure 6. However, Corbett **does not limit** a *tiedown ply* to just a layer which is only present in the surrounding chamfer region. Corbett further discusses traditional *tiedown plies*

“four complete cover sheet tiedown plies 175 ... anchor the layers and the core” (column 6, lines 19 – 22).

Thus, even according to Corbett the term *tiedown ply* is not limited to the “picture frame” peripheral *tiedown ply* as suggested by the Applicant, but can include sheets which entirely cover the honeycomb core. Thus, the term is broader than intimated by the Applicant, and would seem

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to refer to a generic term for fabric layers which are used to prevent the differential movement of the honeycomb core and in turn prevent core crush.

Additionally, Corbett discloses that the *tiedown ply* can be made from "carbon fiber or fiberglass fabric made with bismaleimide" (column 5, lines 10 – 15 and lines 58 – 60). Thus, these layers would be resin coated fabrics, which would correspond to the Applicant's stiffness-treated prepreg. Therefore, it is unclear how the Applicant can exclude *tiedown plies* from the invention when in fact the invention is adding a specific type of *tiedown ply*. Therefore, claim 55 is indefinite since it is unclear what the Applicant is excluding by using the phrase *tiedown ply*, since the term *tiedown ply* appears to include the Applicant's stiffness-treated prepreg layer which is required in the claim. It is unclear how the Applicant's stiffness treated prepreg plies are distinct and separate from the *tiedown plies* taught by Corbett. Therefore, claims 55 and 57 – 59 are rejected.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Jenna-Leigh Befumo
January 23, 2003

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